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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/998,142

10/30/2001

Daniel J. Woodruff

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03/19/2004

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EXAMINER

MAYEKAR, KISHOR

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/998,142	Applicant(s) WOODRUFF ET AL.	
	Examiner Kishor Mayekar	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 27-40 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 27-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/19/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1 and 32 are objected to because of the following informalities:
 - o the omission of phrase "and" after the phrase "an anode disposed ... with the electroplating solution;" in claim 1;
 - o the omission of --,-- after the phrase "a contact assembly ... within the reactor bowl" in claim 1; and
 - o the typo spelling of the word "iscrete" in claim 32.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 6, 27-33 and 36-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is preferred to replace the phrase "a reactor bowl including" with --a reactor bowl adapted to contain-- and the phrase "an anode ... in contact" needs to be replaced with the phrase --an anode ... and configured in contact-- for improperly reciting the solution as an element of the device. The phrase "executing" with --configured to execute-- to eliminate reference to a method of operating the device.

Regarding claim 6, it is preferred to replace "facilitating" with --adapted to facilitate-- to eliminate reference to a method of operating the device.

Regarding claims 27-29 and 36-40, the claims are indefinite as being dependent on cancelled claim 26.

Regarding claim 30, it is indefinite for it is a redundant of claim 5.

Regarding claim 31, the phrases "the workpiece support" and "the outer body member" lack antecedent basis.

Regarding claim 32, the phrase "the wafer support member" lacks antecedent basis.

Regarding claim 33, the phrase "the wafer support member" lacks antecedent basis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over BROGDEN et al. (5,227,041) in view of PATTON et al. (6,139,712), both references cited by Applicant. The reference's invention is directed to a dry contact electroplating apparatus. The reference discloses the apparatus comprising a contact assembly for providing electrical contact between a workpiece and a source of electrical power, wherein the contact assembly comprises (col. 3, lines 9-68 and Figs. 2-4):

- a plurality of contacts disposed to contact a peripheral edge of the surface of the workpiece; and
- a barrier disposed interior of the plurality of contacts and including a member disposed to engage the surface of the workpiece to isolate the plurality of contacts from the electroplating solution.

The reference also discloses a typical electroplating apparatus (col. 1, lines 19-29) and the contacts are preferably pliantly mounted (col. 3, lines 15-18). The differences between the reference and the above claims are the recited reactor bowl, the recited contact assembly spaced from the anode, and the plurality of contacts configured to execute a wiping action.

As to the former two, PATTON shows in Fig. 1, the above limitations in an apparatus for electroplating a wafer surface (see Fig. 1). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as shown by PATTON because "the use of conventional materials to perform their known functions in a conventional process is obvious". *In re Raner* 134 USPQ 343.

As to the latter, although the reference is virtually silent in regards to the recited wiping action of the plurality of contacts, the reference's apparatus

appears to lead one of ordinary skill in the art at the time the invention was made towards the above limitation because of the pliantly mounted contacts, the contacts will bend, wipe or pierce against the substrate upon loading the substrate in absence of evidence to the contrary.

As to the subject matter of claims 3, 11 and 33, the selection of any of known equivalent contact forms would have been within the level of ordinary skill in the art. *In re Ruff* 118 USPQ 343. The same is applied to claim 7 (see PATTON's col. 11, lines 46-64 and Figs. 15A and 15B).

As to the subject matter of claims 4 and 5, PATTON shows the pressurizing of the region behind the barrier (col. 8, lines 4-222). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as suggested by PATTON because this would result in effecting the barrier.

As to the subject matter of claims 9 and 10, PATTON shows the use of a wedge member as recited in Figs. 3 and 4. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as suggested by PATTON

because the selection of any of known equivalent securing structures would have been within the level of ordinary skill in the art.

As to the subject matter of claims 15-19, PATTON shows the above limitations in Figs. 1 and 2. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as suggested by PATTON because the selection of any of known equivalent processing heads would have been within the level of ordinary skill in the art. The same is applied to claims 31-35 (see PATTON's Figs. 14A and 14B).

Double Patenting

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claim 30 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 5. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Information Disclosure Statement

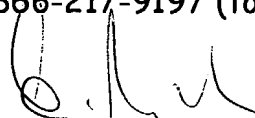
8. The information disclosure statement (IDS) submitted on 10/03/01 has been considered by the examiner. However, the submitted IDS has the initial of a previous examiner, it is requested that Applicant submits a clean copy of IDS so the examiner for this application can initial, sign and date the clean IDS.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kishor Mayekar
Primary Examiner
Art Unit 1753